Joint Requirements Oversight Council (JROC)

Joint Capabilities Integration and Development System (JCIDS) & Insensitive Munitions (IM) Waiver Process

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Joint Staff J8
April 14, 2004

Agenda

I. Joint Staff J8 Organization

II. Joint Capabilities Integration and Development System (JCIDS) - CJCSI 3170.01D and CJCSM 3170.01A

III. What is IM?

IV. Why IM?

V. Summary – Way Ahead

Joint Staff J8 Organization

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Vice Director, J-8
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- Studies and Analysis Management Division
  COL Mike Altomare (A)
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- Resources and Acquisition Management Office
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- Military Secretariat
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- Program and Budget Analysis Division
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- Warfighting Analysis Division
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- Forces Division
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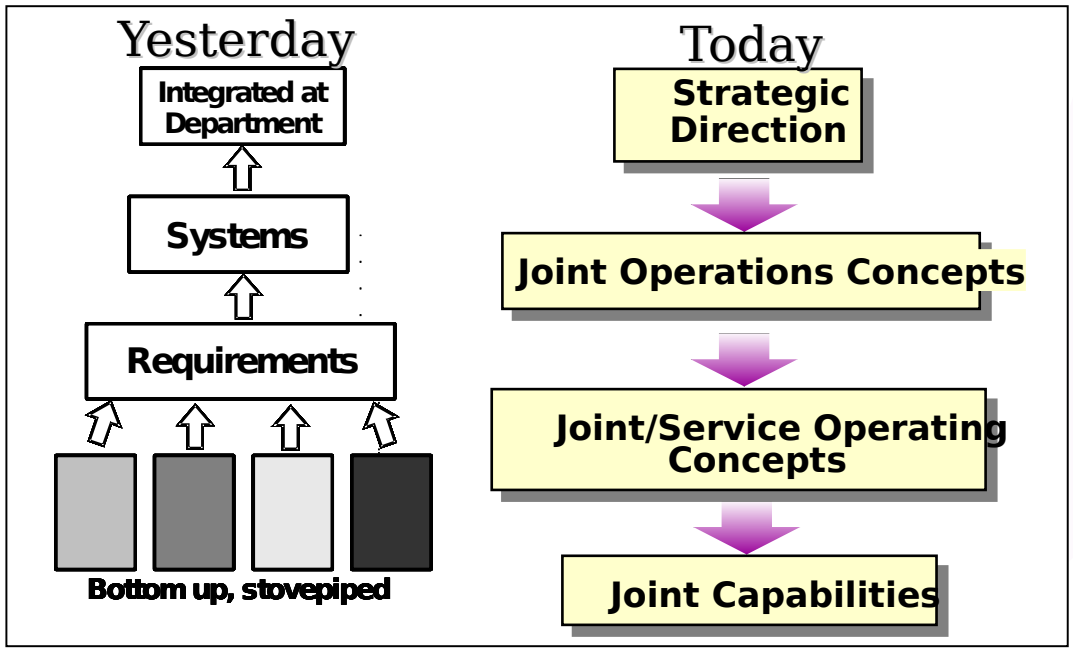
- Model and Analysis Support Office
  Mr. George Sprung (GS-15)

Joint Staff lead for Capabilities Validation, Acquisition Oversight and all IM issues, In support of JROC and DAB

Why JCIDS?

Moving From Strategy to Task



- *Guidance*
- *Concepts*
- *Scenarios*
- *MOEs*
- *Capabilities*

Driving "jointness" from the top-down, strengthening joint warfighting capabilities

JCIDS Instruction and Manual

CJCSI 3170.01D

- **Top-level description**
- **Organizational responsibilities**

CJCSM 3170.01A

- **JCIDS Analysis Process**
- **Define performance attributes & key performance parameters**
- **Validation & approval process**
- **Document content**

Developed in conjunction with DoD 5000 Series

What's Changed?

JCIDS is a top-down capabilities-based process

- Provides joint visibility on all ACAT programs
- Provides more rigorous, up-front analysis by functionally-focused teams
- Directed by Joint Operating Concepts and Functional Concepts
- Flag officer led Functional Capabilities Boards with expanded membership
- Focuses leadership on key decision points early
- Engages Acquisition Community early and continuously

bilities are conceived in a Joint Warfighter co

JCIDS provides:

More analytical rigor, early in the life cycle.

Review by a broader team of experts and users

Capabilities Based Process

Joint Planning Guidance

National Security Strategy

Joint Operations Concept

Quadrennial Defense Review

What capabilities do I need

What capabilities don't I need

What capabilities do I need but can take more/less risk

Identify top-level Gaps and excesses

Major Combat Operations

Strategic Deterrence

Homeland Security

Stability Operations

Refine needs, identify & assess solutions

Task Analysis

Task Analysis

Task Analysis

Task Analysis

Force Application

Force Protection

Command & Control

Battlespace Awareness

Net Centric

Focused Logistics

Force Management

Finance

CoComs **Services** **Agencies** **OSD** **Joint Staff** **Integration Function**

Dedicated Analytical Support

Architectures And Concepts

Metrics and Methodologies

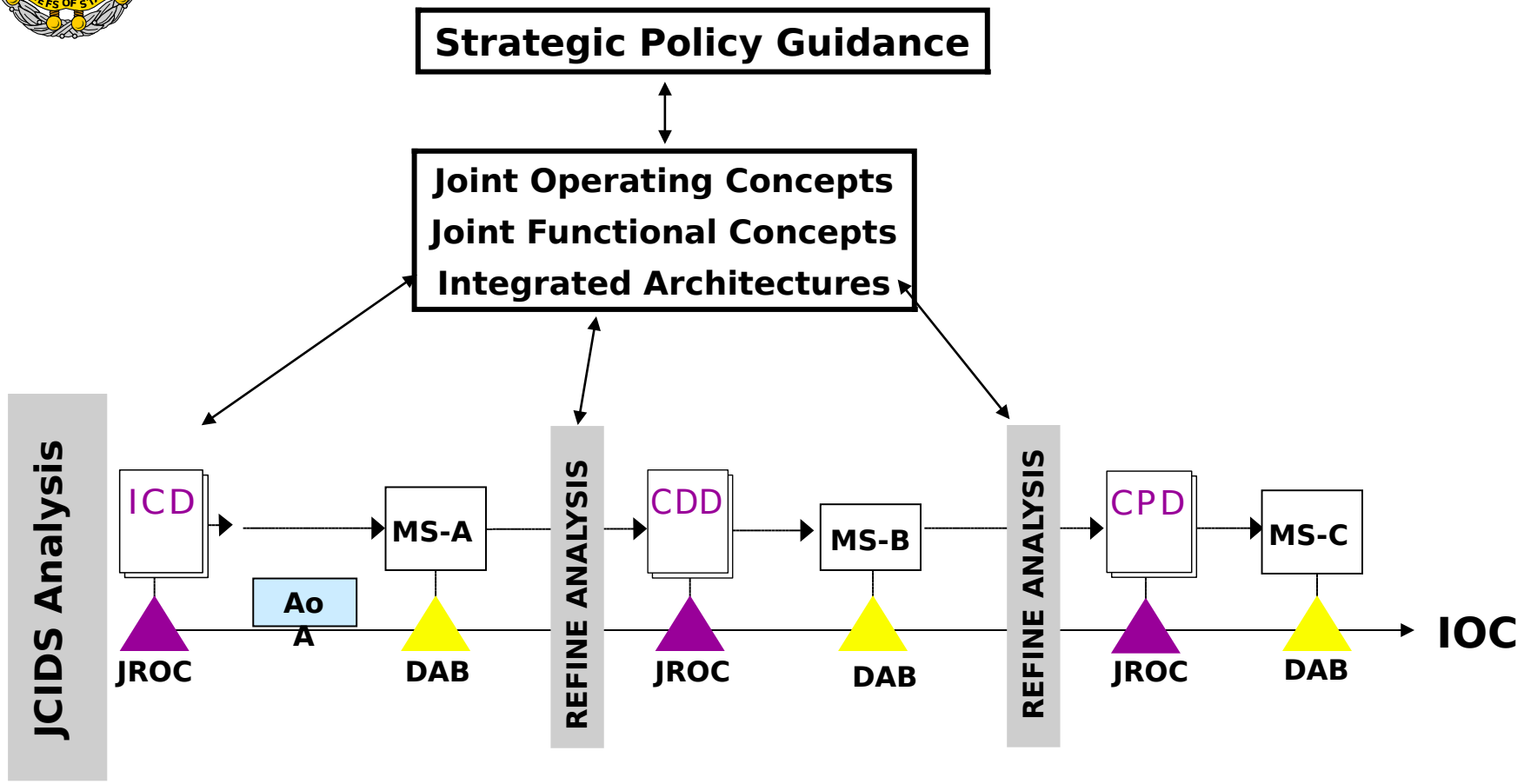
Translate Joint solutions Into programming guidance

Capability-Adds value

Capability-No value added

Capability-Exceeds The needs

3170 & 5000 Link—Overall Process



DAB - Defense Acquisition Board

ICD - Initial Capabilities Document

CDD - Capability Development Document

CPD - Capability Production Document

What is the definition of IM?

Munitions which reliably fulfill their performance, readiness and operational requirements on demand, but which minimize the probability of inadvertent initiation and severity of subsequent collateral damage to weapon platforms, logistic systems and personnel when subjected to unplanned stimuli.

Why IM?

Congressional Law

- **USC, Title 10, Chapter 14, December 2001: "§ 2389.** Ensuring safety regarding insensitive munitions." ''The Secretary of Defense shall ensure, to the extent practicable, that insensitive munitions under development or procurement are safe throughout development and fielding when subject to unplanned stimuli."

Department of Defense Policy

- **DoDD 5000.1, May 12, 2003: E1.23. Safety.** "… All systems containing energetics shall comply with insensitive munitions criteria."

Joint Chiefs Policy

- **Chairman, Joint Chiefs of Staff Manual CJCSM 3170.01, June 23, 2003: "<u>Insensitive Munitions Waiver Requests</u>.** Insensitive munitions waiver requests require approval by the JROC. Insensitive munitions waiver requests shall include a Component or agency approved insensitive munitions plan of action and milestones to identify how future purchases of the same system or future system variants will achieve incremental and full compliance. Waiver requests will be submitted to J-4 for review, then forwarded to the JROC Secretariat in conjunction with JCIDS staffing for JROC consideration."

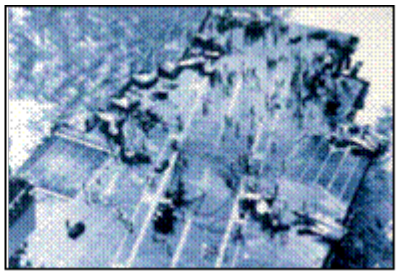
IT'S THE RIGHT THING TO DO FOR THE WARFIGHTER AND NONCOMBATANTS

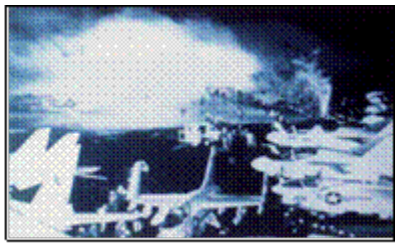
USN Ordnance Accidents

Data extracted from Center for Naval Analyses study, "A Historical Perspective of Insensitive Munitions and Their Estimated Contribution to CV Safety", CRM 90-260 / March 1991

Ship		Fatalities	Injured	Ship Damage ($M)	Aircraft Damaged/ Destroyed	Aircraft Damage ($M)	IM Savings: Lives Saved	IM Savings: Injuries Averted	IM Savings: FY02 ($M)
Oriskany	Actual	44	156	7.6	3/3	3.4	44	106	40.4
	IM Est.	0	50	3	0/0	0			
Forrestal	Actual	134	161	72.1	43/21	110	74	141	825.3
	IM Est.	60	20	5	2/6	6.6			
Enterprise	Actual	28	343	56.2	17/15	70	28	323	529.2
	IM Est.	0	20	3.5	1/1	4.7			
Nimitz	Actual	14	48	5	9/3	73.4	2	7	0.8
	IM Est.	12	41	4.5	9/3	73.4			
							148	**577**	**1,395.7**

IM can save lives and resources.





USS Oriskany (1966) ***USS Forrestal (1967)*** ***USS Enterprise (1969)*** ***USS Nimitz (1981)***

Camp Doha, Kuwait, July 1991

$40.3M Total Loss: $23.3M in Vehicles, $14.7M in Munitions; $2.3M in Facilities. Three killed while clearing the area; 49 others injured. Chain reaction to fire in M992 ammunition carrier vehicle loaded with 155mm projectiles.

Increased JS Emphasis on IM

- ICW the new JCIDS process, emphasis on IM has shifted.
- JROC IM Waiver approval process.
- Joint Staff working in concert with OSD on all IM issues. DDRA, DDFP, DJ8 and VCJCS all engaged on IM issues, working with corresponding levels within OSD.
- JROC desires new munitions be “borne” IM compliant, e.g., SDB, JCM, JASSM, etc.
- For existing munitions, JROC desires to see some level of IM compliance and emphasis on IM technology insertion… common sense approach for scarce resources.
- JROC concerned with lack of DoD and Service wide IM S&T efforts.

JROC desire for IM S&T

- JROC Memo 150-03 of 28 July 03 (PAC-3) stated:
  - "The JROC…deferred a decision…on a waiver request for the PAC-3. The JROC is concerned with the lack of PAC-3 IM compliance on current production missiles and nominal improvements on planned subsequent production variants…. the JROC is requesting the DAB re-examine possible IM technology insertions for PAC-3."
  - "The JROC also requests USD(AT&L) assistance in overseeing DOD-wide science and technology efforts to improve IM. A focused DOD-wide IM technology effort will ensure long-term compliance and safety."

Through the IM waiver process, the JROC has clearly seen the lack of technologies available to meet IM challenges. Program Managers consistently cite technology unavailability as the

DOD IM Roadmap Approach

- Service S&T Executives need to fund core technology S&T (6.1 and 6.2) efforts focused on new energetic materials (explosives and propellants) and manufacturing processes, case and package technology, and modeling and simulations.

- Work would be completed by all three Military Departments and would provide the critically needed technology building blocks to address these deficiencies.

- DOD IM Roadmap also identified the need to demonstrate current and future technology in munition-like hardware and configuration. This is an important process in order to validate the application of IM technology to particular types of munitions.

- The 6.3 effort would fund priority efforts across the Military Departments to complete this work.

S&T's IM Weapon Priorities

Legend CATEGORY	FCO	SCO	BI	FI	SD	Joint Priority
Gun Propellant Large Caliber	IV	IV / III	IV	III	P	1
General Purpose Explosives	IV	V	V	V	F	2
Solid Rocket Propulsion Minimum Smoke	IV	I	I	I	P / F	3
Metal Accelerating Explosives Castable (Heavy)	V / I	IV / III	V / IV	V / IV	P / F	4
Advanced Penetrator Explosives	V / IV	V / IV	V / IV	V / IV	P / F	5
Metal Accelerating Explosives Pressed (Light)	V / III	V / IV	V / IV	IV / III	P / F	6
Solid Rocket Propulsion High Performance	IV / III	III / II	IV / III	V / III	P	7

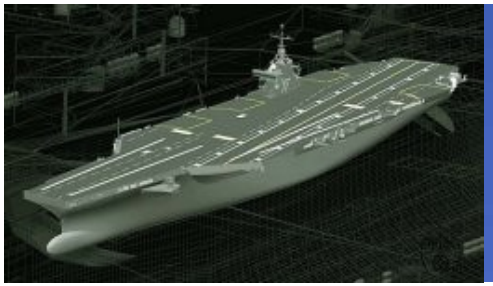
Pass	V	Burning Reaction (FCO, SCO, BI, FI) or No Propagation (SD)
Fail	IV	Deflagration or Propulsive Reaction
Fail	III	Explosion
Fail	I / II	Detonation or Partial Detonation (Except SD and SCJ)

Solving the top 7 priorities will have a positive effect on approximately 70-75% of the weapons DoD plans to procure.

Key Benefits From IM Investment

- Warfighting Efficiencies
  - Weapons Throughput
  - Sortie Generation
- Improved Logistics
  - Improved Replenishment
  - Reduced Real Estate (Lower Hazard Class)
- Increased Survivability
  - Saves Lives
  - Minimize Collateral Damage from Threats
  - Safer Ammunition Inventory
- Applicable Across Services/Platforms

Industry Support Essential!



CVN-21

JSF

FCS

Summary-Way Ahead

- JCIDS process driving “jointness” from the top down, with oversight of all ACAT programs and earlier buy-in by all players.
- 3170 & 5000 closely aligned ensuring evolutionary acquisition.
- IM addresses the Joint and International warfighting needs. It’s also the law!
- IM is the right thing to do for warfighters and noncombatants. IM saves lives and material.
- JROC is looking for consistent improvements with a long term plan for achieving incremental and full IM compliance per DoDD 5000.1 and CJCSI 3170.01D.

Bottom Line: Services and industry need to make the necessary funding investments for the development of IM technology.

Questions?

Back-up

What are the metrics for IM?

(MIL-STD 2105C)

Fast Cook-off	Slow Cook-off	Bullet Impact	Fragment Impact	Sympathetic Detonation
Shape Charge (FCO)	(SCO)	(BI)	(FI)	
Fuel fire such as on a carrier flight deck.	Heat or conflagration in an adjacent compartment	Low velocity gunfire threats.	High velocity fragments from high performance warheads.	Propensity for mass detonation of adjacent rounds.	Shaped charge weapon attach (with calibers from 40mm upwards).

Pass	V	Burning reaction (FCO, SCO, BI, FI) or no propagation (SD) or non-detonation
Fail	IV	Deflagration or propulsive reaction
Fail	III	Explosion
Fail	I / II	Detonation

(**NOTE**: Due to recent operational needs, **shaped charge jet** will be reemphasized in IM testing.)

Additional Information

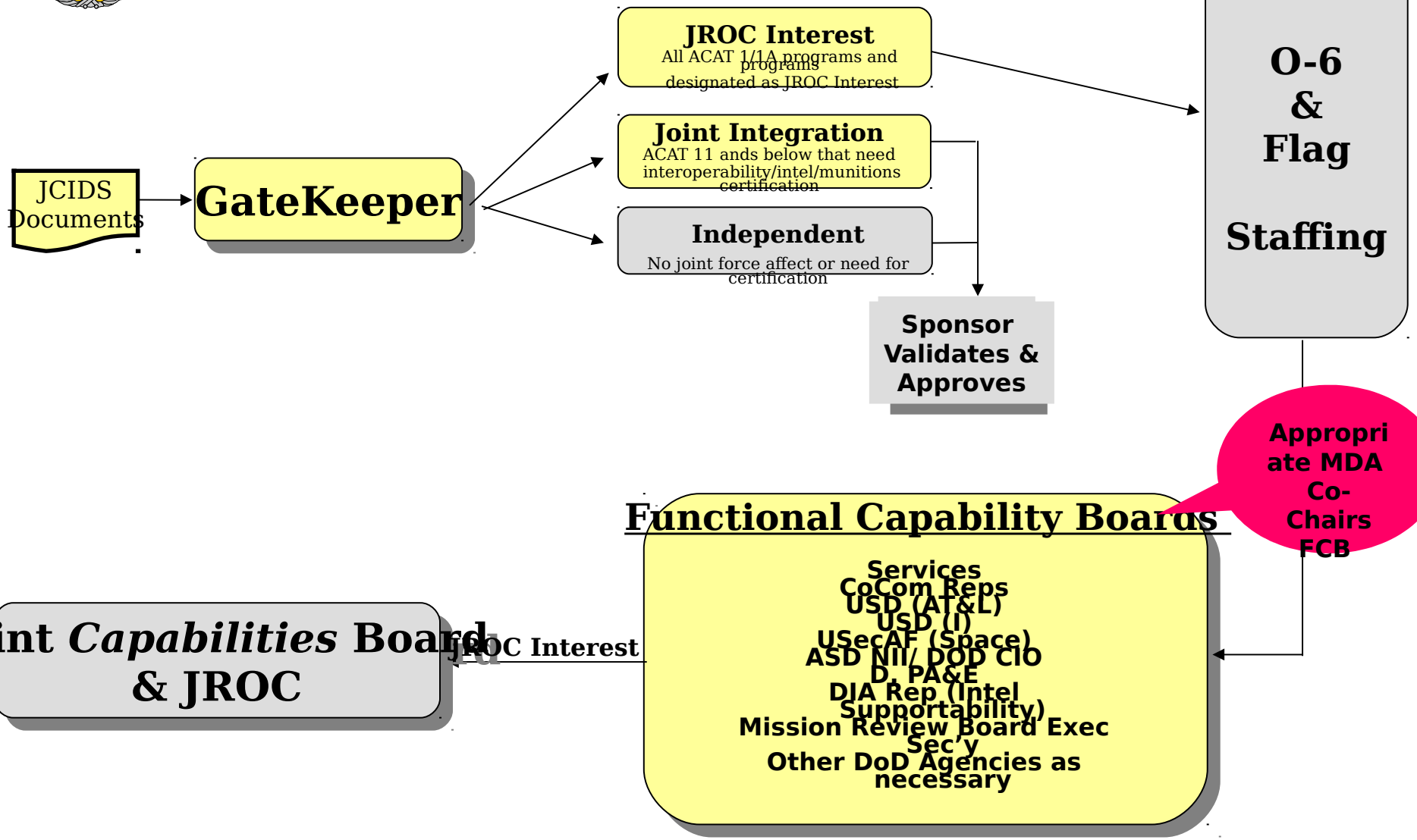
- **Revised Chairman's Instruction and companion Manual were signed 24 Jun 03**

- **CJCSI 3170.01C and CJCSM 3170.01 are posted on the DTIC web site: http://www.dtic.mil/cjcs_directives**

- **Resident and Distance learning available through the Defense Acquisition University http://www.dau.mil**

- **Update to Instruction and Manual signed 23 Mar 04**

JCIDS Process--Pictorial



Oversight Body Comparison

Joint Requirements Panel (JRP)

- Services
- DIA Representative (Intelligence Supportability)

Functional Capabilities Board (FCB)

- Services
- Combatant Commanders
- USD (AT&L)
- USD (I)
- USecAF (Space)
- ASD NII/ DOD CIO
- USD(C)
- D, PA&E
- DIA Representative (Intelligence Supportability)
- Mission Requirements Board Executive Secretary

Joint Requirements Board (JRB) → **Joint Capabilities Board (JCB)**

Joint Requirements Oversight Council (JROC) → **Joint Requirements Oversight Council (JROC)**

Chartered FCBs

JROC:

* Charters FCBs
* Directs FCB efforts
* Identifies the FCB lead

FCBs:

* Milestone Decision Authority Co-chairs
* Bring all stakeholders together for common review and issue resolution
* Prioritize/assess capability gaps and proposals

Command & Control
BGen Rogers
JFCOM J-8

Battlespace Awareness
RDML Murrett
JS J-2

Focused Logistics
BGen Taylor
JS J-4

Net-Centric
RDML Brown
JS J-6

Force Application
MGen Scott
JS J-8

Force Protection
RADM Mathis
JS J-8

FCB Portfolios

Command and Control

- Integrated JBMC2
  - **SFJHQ**
  - **DJC2**
  - **JNTC**
- Integrated Joint Fires Capabilities
- Advanced C2 Concepts
  - **Effects Based Planning**
  - **Effects Based Operations**
  - **Operational Net Assessment**
- Situational Awareness (Red / Blue)
- Combat Identification
- Collaborative Information Environment
- Common Operational Pictures
- Adaptive Mission Planning and Rehearsal

Net Centric

- GIG Infrastructure & Services
  - **Data Transport & storage**
  - **Dissemination**
  - **Info assurance**
  - **SATCOM,**
  - **Navigation, broadcast systems**
  - **Enterprise Services**
  - **Info management**
- National to Tactical C4 integration
  - **Multinational Info Sharing**
  - **National & Strategic C2 sharing**
  - **Horizontal C2 Integration**
  - **Cross-functional Net-centric Integration**
- Legacy Communications Systems

BattleSpace Awareness

- Command and Control of Battlespace Awareness Assets
  - **Synchronize ISR with operations**
  - **Task, dynamically re-task & monitor assets**
- Execute collection
  - **Persistent Surveillance**
  - **Cross cue**
  - **Employ human resources**
  - **Employ open source resources**
  - **Measure & monitor environmental conditions**
- Exploit and Analyze
  - **Recognize targets**
  - **Distribute processing**
  - **Information fusion**
  - **Enable analyst collaboration**
  - **Defeat denial and deception**
- Model, Simulate, Forecast/Predict
  - **Predictive analysis**
  - **Integrate adversary & friendly information**
- Manage Knowledge
  - **Smart pull/push information**
  - **Share plan visibility**
  - **Content management**

FCB Portfolios (cont)

Force Protection

- Personnel Protection
  - **Anti-terrorism**
  - **Combat search & rescue**
  - **Explosive Detection & Defeat (EOD)**
  - **Insensitive Munitions & ordnance & weapons safety**
- Critical Asset Protection
  - **Aircraft Defensive Systems**
  - **Ship Defensive systems**
  - **Electronic Protection**
  - **Critical Infrastructure Protection**
  - **COG/COOP**
- Homeland Security
- Air & Missile Defense
  - **Ballistic Missile Defense**
  - **Air & cruise missile defense**
  - **Interagency Homeland air security**
- Consequence Management
- Proliferation Control
- CBRN

Focused Logistics

- Deployment & Distribution
  - **Joint Deployment Process Owner**
  - **Unit Movement Systems**
- Mobility
  - **Support Helicopters**
  - **Cargo Aircraft**
  - **Sustainment Ships**
- Sustainment
  - **Industrial Base**
  - **Maintenance Equipment**
  - **Cargo Parachutes**
- Force Health Protection
  - **Vaccines**
  - **Medical Equipment**
  - **Dental Equipment**
- Logistics Command & Control
  - **GCSS**
  - **In Transit Visibility**
- Operational Engineering
  - **Family of Loaders**
  - **Engineer Equipment**
  - **Deployment & Distribution**

Force Application

- Engagement-Kinetic
  - **Conventional Attack**
  - **Nuclear Attack**
  - **Close Combat**
  - **Joint Fire Support**
- Engagement-Non-kinetic
  - **Psychological Operations**
  - **Electronic Attack/Directed Energy**
  - **Computer Network Attack**
- Maneuver
  - **Land Combat Operations**
  - **Maritime Combat Operations**
  - **Air Combat Operations**
  - **Space Combat Operations**

Functional Capabilities Board

Ensures new capabilities are conceived and developed in a Joint Warfighting Context

- Oversee development and update of Functional Conc
- Organize, analyze & prioritize capabilities proposals
- Ensure integrated architectures reflect the functiona
- Leverage full resources of the Department

FCB Working Groups

Working Arm of the Functional Capabilities Boards

- Coordinate and assist sponsors during JCIDS analysis and document development
- Analyze capabilities documents to ensure sponsor is considering joint warfighting aspects
- Review assigned functional area to identify capability shortfalls
- Develop/maintain prioritized lists of capability shortfalls and current JCIDS proposals across the functional area
- Provide the warfighting context and recommendation to the FCB/JCB/JROC on validation and/or approval of JCIDS documents

Initial Capabilities Document (ICD)

Purpose of the ICD:

- Describes capability gaps as determined by the functional analysis
- Summarizes the DOTMLPF analysis
  - Describes why such changes are inadequate
- Documents the evaluation of possible materiel approaches
  - Describes how the recommended approach(es) best provide the desired capability

When is an ICD required?

- All new programs when a MNS is greater that 2 years old
- Programs proceeding directly to Milestone B or C

Initial Capabilities Document (ICD) (cont'd)

Who writes an ICD?

- The sponsor
  - In coordination with
    - Other DOD components
    - Agencies
    - JWCA teams
    - CRD leads
    - Integrated architecture leads
    - PA&E

Is there a repository?

- All approved ICDs will be posted to KM/DS for future reference

CDD and CPD

- **Capability Development Document (CDD)**
  - Identifies operational performance attributes of proposed system
  - System specific, applies to single increment (in an evolutionary program)
  - Results from Technology Development & supports Milestone B
  - Updated or rewritten for subsequent increments
- **Capability Production Document (CPD)**
  - Identifies production attributes for a single increment of a program
  - Prepared during System Development and Demonstration
  - Rewritten for each increment in a evolutionary program

JROC Organization

JROC DECISION CHAIN

FINAL DECISION AUTHORITY

CJCS — **ADVICE TO SECDEF**

JROC — **RECOMMENDATION APPROVAL/ TOP LEVEL GUIDANCE**

JCB — **ISSUE DEVELOPMENT**

FCB — **INITIAL ISSUE REVIEW**

FCB WG — **ANALYTIC FOUNDATION**

JROC MEMBERSHIP

Chair: VCJCS

Council Members:

- **Vice Chief of Staff, Army**
- **Vice Chief of Naval Operations**
- **Vice Chief of Staff, Air Force**
- **Assistant Commandant of the Marine Corps**

JROC: Joint Requirements Oversight Council
JCB: Joint Capabilities Board
FCB: Functional Capabilities Board
FCB WG: FCB Working Group

COCOMs & OSD have a standing invitation to attend all JROC sessions